# MENTAL ABILITY IN RELATION TO HEAD CIRCUMFERENCE, CEPHALIC INDEX, SOCIOLOGICAL CONDITION, SEX, AGE, AND NATIONALITY.

By Arthur Mac Donald, *Author of "Man and Abnormal Man,"* *
*Washington, D. C.*

In 1897, the writer conducted a study of the Washington school children, which was one of the first investigations of this kind in the United States. One of the measurements taken was circumference of head on the plane of the eyebrows, which is a measurement seldom, if ever, made on large numbers of children. Data were also gathered as to the ability of the children in different branches of study, which was the first time such an inquiry had been conducted on a large scale.

At that time the results were published in a voluminous work, not only containing other measurements, but treating of other subjects. As a consequence these results are not easy of access. The purpose of this article, therefore, is to call special attention to these and other points suggested.

As the difficulties of estimating the mental ability of pupils are well known, and as there is always doubt as to whether a teacher's judgment was correct, all possible precautions were taken. For instance, if there was the least doubt in the teacher's mind as to whether a pupil was bright or dull, the teacher was told to mark such pupil average, so that there might be as few errors as possible as to brightness and dullness.

Teachers were asked to report only on pupils whom they knew well, and while the test rested mainly on their records, yet this did not prevent them from giving weight to their opinion, where the records were inadequate. Though there are no satisfactory standards of ability, this does not in the least prevent us from saying that one pupil is bright and another dull.

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The pupils were divided according to the occupation of their parents into (1) laboring and (2) non-laboring classes. The non-laboring comprise professional and mercantile people; the laboring embrace all others including skilled and unskilled laborers.

TABLE I.

MENTAL ABILITY AND CIRCUMFERENCE OF HEAD.

| Nearest Age. | Bright Boys. | | Dull Boys. | | Average Boys. | | Bright Girls. | |
|---|---|---|---|---|---|---|---|---|
| | Number. | Average Circumference of Head in Inches. | Number. | Average Circumference of Head in Inches. | Number. | Average Circumference of Head in Inches. | Number. | Average Circumference of Head in Inches. |
| 6..... | 53 | 20.25 | 39 | 20.29 | 45 | 20.26 | 5 | 21.27 |
| 7..... | 205 | 20.50 | 99 | 20.29 | 199 | 20.35 | 236 | 20.02 |
| 8..... | 320 | 20.57 | 101 | 20.29 | 326 | 20.54 | 364 | 20.20 |
| 9..... | 384 | 20.65 | 102 | 20.48 | 340 | 20.64 | 403 | 20.33 |
| 10..... | 392 | 20.78 | 118 | 20.53 | 355 | 20.74 | 404 | 20.50 |
| 11..... | 322 | 20.83 | 97 | 20.59 | 386 | 20.85 | 388 | 20.59 |
| 12..... | 349 | 20.98 | 128 | 20.85 | 459 | 20.93 | 328 | 20.93 |
| 13..... | 305 | 21.06 | 131 | 21.01 | 421 | 20.98 | 338 | 21.03 |
| 14..... | 227 | 21.26 | 143 | 21.07 | 371 | 21.24 | 285 | 21.29 |
| 15..... | 167 | 21.61 | 116 | 21.32 | 220 | 21.41 | 204 | 21.34 |
| 16..... | 104 | 21.78 | 80 | 21.55 | 144 | 21.67 | 142 | 21.50 |
| 17..... | 34 | 22.08 | 32 | 21.56 | 70 | 22.00 | 45 | 21.76 |
| 18..... | 14 | 22.12 | 4 | 22.03 | 24 | 21.95 | 45 | 21.70 |

TABLE I.—*Continued.*

| Dull Girls. | | Average Girls. | | Bright Boys American Parents: Laboring Classes. | | Dull Boys American Parents: Laboring Classes. | |
|---|---|---|---|---|---|---|---|
| Number. | Average Circumference of Head in Inches. | Number. | Average Circumference of Head in Inches. | Number. | Average Circumference of Head in Inches. | Number. | Average Circumference of Head in Inches. |
| 40 | 19.61 | 49 | 20.03 | 11 | 20.04 | .. | ..... |
| 41 | 19.72 | 231 | 19.89 | 58 | 20.42 | 45 | 20.28 |
| 68 | 19.92 | 322 | 20.11 | 112 | 20.50 | 50 | 20.29 |
| 62 | 20.30 | 418 | 20.25 | 119 | 20.65 | 54 | 20.43 |
| 62 | 20.23 | 473 | 20.41 | 141 | 20.71 | 48 | 20.57 |
| 86 | 20.36 | 457 | 20.53 | 100 | 20.72 | 44 | 20.64 |
| 82 | 20.48 | 465 | 20.74 | 112 | 20.93 | 49 | 20.75 |
| 113 | 20.77 | 515 | 20.93 | 88 | 21.03 | 58 | 20.91 |
| 101 | 20.93 | 447 | 21.18 | 57 | 21.15 | 44 | 20.96 |
| 112 | 21.38 | 339 | 21.26 | 39 | 21.50 | 40 | 21.21 |
| 55 | 21.24 | 253 | 21.34 | 21 | 21.93 | 32 | 21.54 |
| 60 | 21.40 | 165 | 21.57 | .. | ..... | .. | ..... |
| 25 | 21.54 | 109 | 21.58 | .. | ..... | .. | ..... |

In order that the measurements might be made as accurate as possible, the superintendent of the schools selected the

most careful teachers and the writer spent much time in instructing and directing them in the work. All of the head measurements except circumference, were made by the writer himself.

In Table I is given the average circumference of head (in inches) of bright, dull, and average boys and girls. As will be seen, the average circumference of head of bright boys is greater for every age (except 6) than that of the dull boys. The bright girls also show, for every age, a larger average circumference of head than the dull girls.

But we do not know whether or not this difference in head circumference between bright and dull children may not be due to racial and sociological conditions. In the last four columns of Table I these two factors are eliminated, where bright boys of American parentage and belonging to the laboring classes are compared with dull boys of similar parentage and same sociological conditions. Here, also, for every age the average head circumference of the bright boys is greater than that of the dull boys. This is the first time by actual measurements on large numbers that mental brightness has been shown to be accompanied with a larger circumference of head than mental dullness.*

TABLE II.

ABILITY AND CEPHALIC INDEX.

| Divisions According to Social Classes and Ability. | Number of Individuals. | Average Age in Years and Months. | | Long-headed (Dolicocephalic). | Medium-headed (Mesocephalic). | Short-headed (Brachycephalic). |
|---|---|---|---|---|---|---|
| | | Years. | Months. | Per Cent. | Per Cent. | Per Cent. |
| *Non-laboring classes.* | | | | | | |
| Bright boys | 117 | 12 | .. | 9 | 57 | 34 |
| Bright girls | 114 | 13 | 1 | 13 | 53 | 34 |
| Dull boys | 39 | 14 | 1 | 28 | 44 | 28 |
| Dull girls | 39 | 15 | 4 | 8 | 46 | 46 |
| Average boys | 49 | 12 | 6 | 12 | 43 | 45 |
| Average girls | 30 | 14 | 10 | 10 | 48 | 42 |
| *Laboring classes.* | | | | | | |
| Bright boys | 53 | 12 | .. | 8 | 32 | 60 |
| Bright girls | 62 | 13 | 2 | 14 | 60 | 26 |
| Dull boys | 34 | 12 | 7 | 6 | 38 | 56 |
| Dull girls | 34 | 13 | 9 | 12 | 44 | 44 |
| Average boys | 32 | 11 | 1 | 13 | 53 | 34 |
| Average girls | 37 | 13 | 7 | 11 | 43 | 46 |
| *Non-laboring classes.* | | | | | | |
| Bright boys | 55 | 13 | 10 | 9 | 58 | 33 |
| Bright girls | 83 | 12 | 2 | 8 | 44 | 48 |

*It might be stated that Doctor Porter in his investigation of St. Louis school children in 1893, found a larger width of head in successful school children.

Table II gives the figures for mental ability and cephalic index. Eliminating the sociological element, 9 per cent. of the bright boys and 28 per cent. of the dull boys of the non-laboring classes are long-headed, while in the same sociological class 34 per cent. of bright and 28 per cent. of dull boys are brachycephalic. The reverse is true in case of the girls in this class; that is, 13 per cent. of the bright and 8 per cent. of the dull girls are dolicocephalic, and 34 per cent. of the bright and 46 per cent. of the dull are brachycephalic. That is to say, in boys dolicocephaly seems to indicate a higher per cent. of dullness and brachycephaly a higher per cent. of brightness, while in girls the opposite is true. With the laboring classes the same comparisons are true except in the case of the brachycephalic boys. In connection with the fact, that dull boys show a much larger per cent. of dolicocephaly than bright boys, it may be stated that colored boys as compared with white boys are much more dolicocephalic. Also dull colored boys have 40 and bright colored boys 23 per cent. of dolicocephaly (See "Man and Abnormal Man").

### Comparative Ability in Studies.

The teachers were asked not only to mark each pupil bright, dull, or average in general, but to specify the studies in which each one was bright, dull, or average, so that their estimate of ability might be as complete as possible. As it is easier to determine the status of a pupil in some single branch, than in general, the results in the following table may be not only more definite, but less liable to error.

In Table III are given the numbers and percentages of ability of pupils in the main branches of study. Some of the teachers reported for "arithmetic" under head of "mathematics." These results were not consolidated, since any agreement between them would tend to confirm the general correctness of the reports.

### Ability and Sex.

By analysis of the table (III), we find that boys of American parents when compared with girls of American parents are inferior to the girls in algebra, drawing, history, language,

manual labor, music, penmanship, reading and spelling, and superior to the girls in arithmetic and mathematics; that is, the boys are inferior in eight studies, superior in two and equal in four.

If we now compare the boys of American parentage, non-laboring classes, with the girls of like parentage and class, eliminating the influence of nationality and sociological conditions, we find that the girls excel the boys still more, being equal to them in arithmetic, where before they were inferior and superior in geography where they were formerly equal to them.

Comparing boys and girls of the laboring classes, American parentage, the boys gain some, for they are superior in history, where they were equal to the girls. They are equal in drawing, where they were inferior to the girls.

TABLE III.

| | Mental Divisions. | Algebra. | | Arithmetic. | | Drawing. | | Geography. | | History. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Number. | % | Number. | % | Number. | % | Number. | % | Number. | % |
| Boys of American parentage | Bright... | 38 | 36 | 2,170 | 44 | 498 | 34 | 387 | 35 | 306 | 44 |
| | Dull..... | 20 | 19 | 912 | 18 | 327 | 22 | 143 | 13 | 134 | 15 |
| | Average.. | 48 | 45 | 1,862 | 38 | 634 | 44 | 572 | 52 | 370 | 41 |
| Girls of American parentage | Bright... | 90 | 49 | 1,820 | 37 | 576 | 35 | 453 | 36 | 491 | 41 |
| | Dull..... | 21 | 11 | 931 | 19 | 268 | 17 | 150 | 12 | 181 | 15 |
| | Average.. | 73 | 40 | 2,186 | 44 | 789 | 48 | 641 | 52 | 519 | 44 |
| Boys of American parentage (non-laboring classes) | Bright... | 31 | 37 | 1,170 | 46 | 341 | 39 | 278 | 42 | 295 | 51 |
| | Dull..... | 15 | 18 | 477 | 19 | 192 | 22 | 69 | 10 | 60 | 10 |
| | Average.. | 38 | 45 | 904 | 35 | 347 | 39 | 321 | 48 | 226 | 39 |
| Girls of American parentage (non-laboring classes) | Bright... | 61 | 50 | 966 | 42 | 358 | 41 | 288 | 46 | 344 | 50 |
| | Dull..... | 12 | 10 | 278 | 12 | 109 | 13 | 26 | 4 | 54 | 8 |
| | Average.. | 48 | 40 | 1,037 | 46 | 402 | 46 | 311 | 50 | 287 | 42 |
| Boys of American parentage (laboring classes) | Bright... | 7 | 32 | 1,000 | 42 | 157 | 27 | 109 | 25 | 101 | 32 |
| | Dull..... | 5 | 23 | 435 | 18 | 135 | 23 | 74 | 17 | 74 | 23 |
| | Average.. | 10 | 45 | 958 | 40 | 287 | 50 | 251 | 58 | 144 | 45 |
| Girls of American parentage (laboring classes) | Bright... | 29 | 46 | 854 | 32 | 218 | 28 | 165 | 27 | 147 | 29 |
| | Dull..... | 9 | 14 | 653 | 25 | 159 | 21 | 124 | 20 | 127 | 25 |
| | Average.. | 25 | 40 | 1,149 | 43 | 387 | 51 | 330 | 53 | 232 | 46 |
| Boys of foreign and mixed nationalities | Bright... | 12 | 50 | 684 | 41 | 141 | 31 | 102 | 30 | 98 | 35 |
| | Dull..... | 1 | 4 | 311 | 19 | 111 | 24 | 51 | 15 | 58 | 21 |
| | Average.. | 11 | 46 | 665 | 40 | 202 | 45 | 189 | 55 | 123 | 44 |
| Girls of foreign and mixed nationalities | Bright... | 20 | 27 | 563 | 34 | 182 | 33 | 120 | 30 | 138 | 30 |
| | Dull..... | 22 | 30 | 402 | 24 | 98 | 17 | 69 | 18 | 95 | 21 |
| | Average.. | 31 | 43 | 685 | 42 | 278 | 50 | 204 | 52 | 222 | 49 |
| Colored boys | Bright... | 30 | 61 | 1,033 | 54 | 153 | 47 | 212 | 45 | 141 | 51 |
| | Dull..... | 4 | 8 | 386 | 20 | 55 | 17 | 62 | 13 | 30 | 11 |
| | Average.. | 15 | 31 | 501 | 36 | 119 | 36 | 201 | 42 | 104 | 38 |
| Colored Girls | Bright... | 37 | 65 | 948 | 60 | 73 | 40 | 250 | 62 | 159 | 64 |
| | Dull..... | 11 | 19 | 459 | 29 | 46 | 25 | 100 | 25 | 56 | 22 |
| | Average.. | 9 | 16 | 173 | 11 | 65 | 35 | 52 | 13 | 35 | 14 |

TABLE III.—*Continued.*

| Language and English. | | Manual Labor. Sewing. | | Mathematics. | | Music. | | Penmanship. | | Reading. | | Science. Botany. | | Spelling. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number. | % | Number. | % | Number. | % | Number. | % | Number. | % | Number. | % | Number. | % | Number. | % |
| 1,322 | 38 | 661 | 29 | 155 | 50 | 337 | 24 | 449 | 28 | 1,079 | 43 | 106 | 44 | 398 | 33 |
| 675 | 19 | 475 | 21 | 48 | 16 | 286 | 29 | 424 | 27 | 509 | 21 | 44 | 12 | 297 | 24 |
| 1,493 | 43 | 1,113 | 50 | 103 | 34 | 475 | 47 | 722 | 45 | 900 | 36 | 167 | 44 | 526 | 43 |
| 1,705 | 46 | 860 | 40 | 141 | 34 | 416 | 40 | 658 | 40 | 1,287 | 54 | 197 | 45 | 630 | 48 |
| 392 | 10 | 198 | 9 | 84 | 20 | 101 | 10 | 223 | 13 | 265 | 11 | 63 | 15 | 181 | 14 |
| 1,618 | 44 | 1.117 | 51 | 188 | 46 | 515 | 50 | 767 | 47 | 846 | 35 | 175 | 40 | 488 | 38 |
| 805 | 42 | 371 | 31 | 116 | 56 | 156 | 25 | 254 | 30 | 595 | 48 | 114 | 48 | 252 | 35 |
| 316 | 17 | 235 | 19 | 23 | 11 | 187 | 29 | 227 | 27 | 204 | 17 | 22 | 9 | 166 | 23 |
| 787 | 41 | 600 | 50 | 69 | 33 | 294 | 46 | 370 | 43 | 427 | 35 | 100 | 43 | 295 | 42 |
| 1,002 | 53 | 488 | 45 | 97 | 36 | 265 | 45 | 359 | 45 | 684 | 64 | 128 | 50 | 372 | 58 |
| 89 | 5 | 52 | 5 | 50 | 18 | 47 | 8 | 89 | 11 | 47 | 4 | 36 | 14 | 55 | 8 |
| 791 | 42 | 545 | 50 | 123 | 46 | 275 | 47 | 358 | 44 | 338 | 32 | 90 | 36 | 219 | 34 |
| 527 | 33 | 290 | 28 | 39 | 40 | 81 | 23 | 195 | 26 | 484 | 38 | 52 | 37 | 146 | 29 |
| 359 | 23 | 240 | 23 | 25 | 25 | 99 | 27 | 197 | 27 | 305 | 24 | 22 | 16 | 131 | 26 |
| 706 | 44 | 513 | 49 | 34 | 35 | 181 | 50 | 352 | 47 | 473 | 38 | 67 | 47 | 231 | 45 |
| 703 | 38 | 372 | 34 | 44 | 31 | 151 | 34 | 299 | 35 | 603 | 45 | 69 | 38 | 258 | 40 |
| 303 | 17 | 146 | 13 | 34 | 24 | 54 | 12 | 134 | 16 | 218 | 17 | 27 | 15 | 126 | 19 |
| 827 | 45 | 572 | 53 | 65 | 45 | 240 | 54 | 409 | 49 | 508 | 38 | 85 | 47 | 269 | 41 |
| 392 | 32 | 221 | 27 | 45 | 43 | 74 | 25 | 123 | 26 | 316 | 40 | 51 | 37 | 121 | 31 |
| 260 | 22 | 183 | 23 | 16 | 15 | 71 | 25 | 128 | 28 | 162 | 21 | 20 | 15 | 109 | 27 |
| 561 | 46 | 400 | 50 | 44 | 42 | 144 | 50 | 216 | 46 | 306 | 39 | 65 | 48 | 165 | 42 |
| 476 | 38 | 263 | 36 | 47 | 34 | 148 | 42 | 228 | 44 | 373 | 46 | 69 | 38 | 192 | 41 |
| 217 | 18 | 79 | 11 | 35 | 25 | 34 | 10 | 59 | 13 | 119 | 15 | 28 | 16 | 76 | 16 |
| 548 | 44 | 379 | 53 | 58 | 41 | 166 | 48 | 221 | 43 | 375 | 39 | 84 | 46 | 197 | 43 |
| 448 | 42 | ..... | .. | 28 | 44 | 85 | 36 | 346 | 45 | 795 | 49 | 7 | 25 | 348 | 41 |
| 180 | 17 | ..... | .. | 20 | 31 | 45 | 19 | 135 | 17 | 361 | 22 | 12 | 43 | 189 | 23 |
| 429 | 41 | ..... | .. | 16 | 25 | 106 | 45 | 299 | 38 | 478 | 29 | 9 | 32 | 300 | 36 |
| 568 | 63 | ..... | .. | .... | .. | 82 | 49 | 367 | 54 | 928 | 17 | 17 | 31 | 416 | 59 |
| 201 | 22 | ..... | .. | .... | .. | 23 | 14 | 134 | 19 | 294 | 21 | 6 | 11 | 164 | 23 |
| 140 | 15 | ..... | .. | .... | .. | 62 | 37 | 184 | 27 | 157 | 62 | 32 | 58 | 128 | 18 |

Comparing boys and girls of mixed nationalities, the boys become superior in algebra, where they were inferior. Whatever sociological or racial division is made, the girls generally excel the boys in mental ability, as estimated by the teachers. But at the same time, the girls show higher percentage of average ability and therefore less variability. Thus boys are inferior in average ability to girls in nine studies, equal in one and superior in four. From the evolutionary point of view, the boys might be considered superior to the girls, since the superior species varies the most.

It is true that girls are usually more industrious than boys and therefore more successful in school. It is also true that those having the highest marks are usually the brightest. But there are pupils who gain high marks by faithfulness rather than by brightness. In such instances, the teacher usually marked them average.

### Ability and Sociological Conditions.

If we compare boys of American parents and non-laboring class with boys of like parentage but of laboring class, the former are equal in five studies, superior in nine and inferior in none to the latter. Sociological conditions affect the girls still more, since those of American parentage, non-laboring class, excel the girls of like parentage, but of laboring class, in all branches of study. The children of the laboring classes excel those of the non-laboring classes in average ability or mediocrity. Comparing boys of the non-laboring class with boys of the laboring class, the former are inferior to the latter in average ability, in eleven studies, superior in one and equal in two. The girls of the non-laboring class are inferior in average ability to the girls of the laboring class in ten studies, superior in two and equal in one study.

This mental superiority of the non-laboring, or professional and mercantile classes is confirmed by other results gained from the study of the Washington schools. It was shown that the bright are taller and heavier than the dull thus verifying studies in other cities, and also that the children of the professional and mercantile classes are taller and heavier than the children of the laboring classes.

### Ability and Nationality.

From examination of Table III, it will be seen that boys of foreign and mixed nationalities are inferior to the boys of American parentage in five studies, equal in eight and superior in one, and that the girls of foreign and mixed nationality are inferior to the girls of American parentage in nine studies, equal in five and superior in none. Thus the influence of foreign and mixed nationality seems unfavorable to the development of ability.

Boys of foreign and mixed nationalities are inferior in average ability in one study; superior in eleven studies and equal in two studies to boys of American parentage. So, also, girls of foreign and mixed nationality are inferior in average ability in four studies, superior in eight and equal in two studies to girls of American parentage. In other words, children of foreign and mixed nationalities excel children of American parentage in average ability or mediocrity.

## TABLE IV.

BOYS—AMERICAN PARENTAGE.

| Nearest Age. | Mental Divisions. | Algebra. | Arithmetic. | Drawing. | Geography. | History. | Language and English. | Manual Labor. Sewing. | Music. | Penmanship. | Reading. | Science. Botany. | Spelling. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Years. | | | | | | | | | | | | | |
| 7..... | Bright..... | .. | 48 | 27 | .. | .. | 45 | 30 | 25 | 22 | 48 | 56 | 46 |
| | Dull..... | .. | 16 | 35 | .. | .. | 18 | 26 | 36 | 38 | 25 | 6 | 12 |
| | Average.... | .. | 36 | 38 | .. | .. | 37 | 44 | 40 | 40 | 27 | 38 | 42 |
| 8..... | Bright..... | .. | 47 | 31 | 69 | .. | 39 | 31 | 35 | 33 | 50 | 51 | 37 |
| | Dull..... | .. | 14 | 15 | 8 | .. | 15 | 23 | 17 | 25 | 17 | 15 | 20 |
| | Average.... | .. | 39 | 54 | 23 | .. | 46 | 46 | 48 | 42 | 33 | 34 | 43 |
| 9..... | Bright..... | .. | 48 | 33 | .. | .. | 48 | 28 | 37 | 34 | 49 | 53 | 45 |
| | Dull..... | .. | 15 | 21 | .. | .. | 14 | 20 | 18 | 20 | 13 | 9 | 12 |
| | Average.... | .. | 37 | 46 | .. | .. | 38 | 52 | 45 | 46 | 38 | 38 | 43 |
| 10..... | Bright..... | .. | 51 | 25 | 54 | 48 | 29 | 26 | 27 | 27 | 51 | 37 | 37 |
| | Dull..... | .. | 11 | 28 | 5 | .. | 15 | 19 | 23 | 27 | 21 | 12 | 24 |
| | Average.... | .. | 38 | 47 | 41 | .. | 37 | 52 | 51 | 46 | 28 | 51 | 39 |
| 11..... | Bright..... | .. | 45 | 31 | 48 | 56 | 41 | 27 | 23 | 29 | 46 | 35 | 32 |
| | Dull..... | .. | 17 | 19 | 10 | 11 | 16 | 26 | 22 | 23 | 20 | 13 | 21 |
| | Average.... | .. | 38 | 50 | 42 | 33 | 43 | 47 | 55 | 48 | 34 | 52 | 47 |
| 12..... | Bright..... | .. | 44 | 35 | 36 | 54 | 37 | 28 | 20 | 23 | 39 | 47 | 30 |
| | Dull..... | .. | 17 | 24 | 11 | 11 | 17 | 20 | 33 | 29 | 22 | 11 | 25 |
| | Average.... | .. | 39 | 41 | 53 | 35 | 46 | 52 | 47 | 48 | 39 | 42 | 45 |
| 13..... | Bright..... | .. | 42 | 37 | 29 | 45 | 32 | 22 | 21 | 29 | 29 | 44 | 26 |
| | Dull..... | .. | 20 | 16 | 12 | 8 | 25 | 23 | 33 | 27 | 21 | 17 | 24 |
| | Average.... | .. | 38 | 47 | 59 | 47 | 43 | 55 | 46 | 44 | 50 | 39 | 50 |
| 14..... | Bright..... | 42 | 38 | 35 | 27 | 41 | 29 | 27 | 7 | 22 | 22 | 25 | 26 |
| | Dull..... | 11 | 24 | 26 | 17 | 18 | 24 | 21 | 44 | 31 | 22 | 12 | 33 |
| | Average.... | 47 | 38 | 39 | 56 | 41 | 47 | 52 | 49 | 47 | 56 | 63 | 41 |
| 15..... | Bright..... | 43 | 29 | 51 | 19 | 42 | 29 | 40 | 20 | 27 | 23 | 30 | 19 |
| | Dull..... | 18 | 42 | 23 | 24 | 17 | 29 | 15 | 42 | 27 | 42 | 10 | 48 |
| | Average.... | 39 | 29 | 26 | 57 | 41 | 42 | 45 | 38 | 46 | 35 | 60 | 33 |
| 16..... | Bright..... | 35 | 24 | 52 | 19 | 28 | 27 | 41 | 11 | 27 | 10 | .. | 29 |
| | Dull..... | 24 | 32 | 25 | 26 | 30 | 28 | 17 | 47 | 22 | 48 | .. | 33 |
| | Average.... | 41 | 44 | 23 | 55 | 42 | 45 | 42 | 42 | 51 | 42 | .. | 38 |
| 17..... | Bright..... | 11 | 24 | 43 | 14 | 26 | 12 | 43 | .. | .. | .. | .. | 60 |
| | Dull..... | 22 | 14 | 14 | 14 | 18 | 24 | 14 | .. | .. | .. | .. | 20 |
| | Average.... | 67 | 62 | 43 | 72 | 56 | 64 | 43 | .. | .. | .. | .. | 20 |

### Age and Ability.

In Table IV are given the percentages of ability in different studies computed on number reported.

From this table it will be seen that as boys increase in age, the percentage of brightness decreases in all the studies, except drawing, manual labor and penmanship; that is, in the more mechanical studies. On the other hand, dullness increases with age in boys in all the studies, except drawing, manual labor, penmanship, music and science. These propositions are generally true of the girls as shown by a similar table, published in "Man and Abnormal Man."

Also as age increases the percentage of average ability or mediocrity increases in different studies, with the exception of spelling.